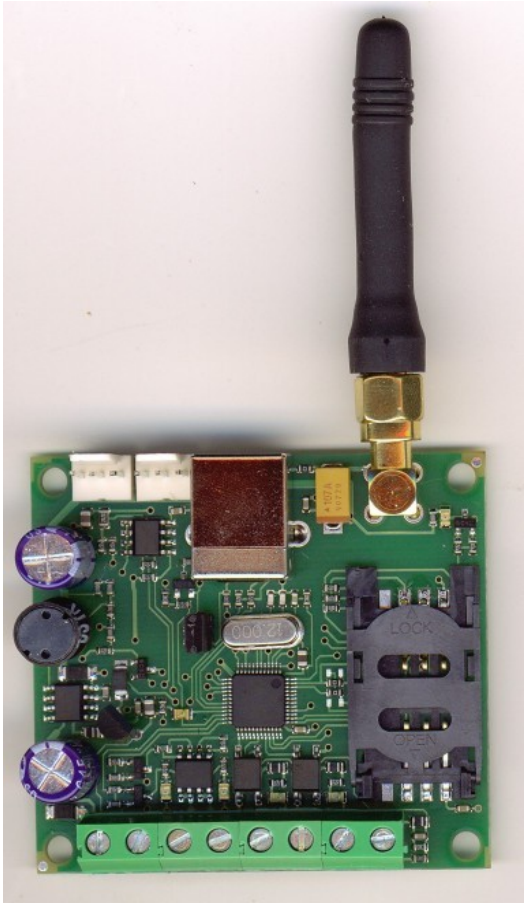
SE2212X – user manual



Safety:

Please, keep safety precautions as follows:

- **Do not use our device nearby the medical aparatures.**
- **Do not use our device nearby explosive atmosphere.**
- **Do not put to high moisture, chemicals and so on.**
- **Do not try to repair it yourself.**
- **It is banned to put SIM card into holder under power supply.**
- **Do not try to run our device without GSM antenna.**

Introduction:

SE2212Xis a universal GSM Remote Control and Alarm Unit. It provides 2 Digital inputs, 1 Analog input, 2 Temperature inputs and 2 Digital outputs. Top quality and a very competitive price! DC Power supply 9 – 24V.

SE2212X is a universal GSM Remote Control and Alarm Unit. It provides 1 Analog inputs 0-30V, 2 Opt coupler digital inputs, 2 digital outputs with power transistor, 2 temperature inputs for Dallas chips DS18B20. USB Port. It allows you to monitor and control an alarm or remote stations or equipments or machines by SMS. Possibility to control the outputs, arm and disarm by ringing only. It is free. For example, if you want to switch output number 3 on, just let 3x to ring. Output 3 will be switched on automatically. The same way you can switch them off.

Specification:

Optional password to keep the system with safety operating mode.

You can program up to 64 phone numbers. It will send SMS messages or call or both together.

Possible to setup the lenght of siren loop

Possible to setup a wired input mode: connect, disconnect, state change, arm, disarm, arm/disarm change

Wired inputs can be easily programmed for the following modes of operation: alarm, 24 loop, silent alarm.

Activation/deactivation (Arm/Disarm) of SE2212X can be carried out simply by calling or SMS.

Possible to choose a number of ringing

Possible to change input and output text

Output inversion (possibility to setup both mode for outputs when input is activated: positive or negative).

Temperature hysteresis

You can add to each input any phone numbers

Possible to select sending a message about SE2212X status. Simply, you can choose any hour, and then SE2212X will send SMS about its status, it means, if it is armed/disarmed and inputs/outputs status.

PC software displays firmware number, IMEI, the signal power, as well as the date and time

Possibility to change or erase phone numbers from list by SMS.

Info SMS about SE2212X complete status, all inputs and outputs and status (ON/OFF)

Password protected, prevents unauthorized user to control

Automatically restart of GSM module, when signal lost

Can be operated from anywhere, no distance limit

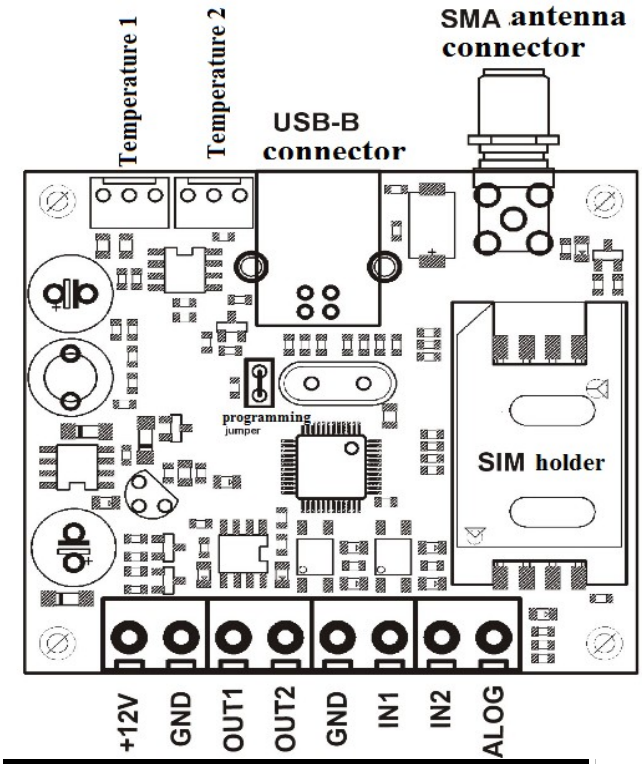
Possibility to control directly any output according to input status. For example, output1 will be ON for a preset time, if preset temperature is higher or lower. You can setup any input to any output to control it directly.

Alarm will be when:

Any input change, higher or lower setting voltage, higher or lower temperature range, possible to ON or OFF for any possibillity.

Technical parameters:

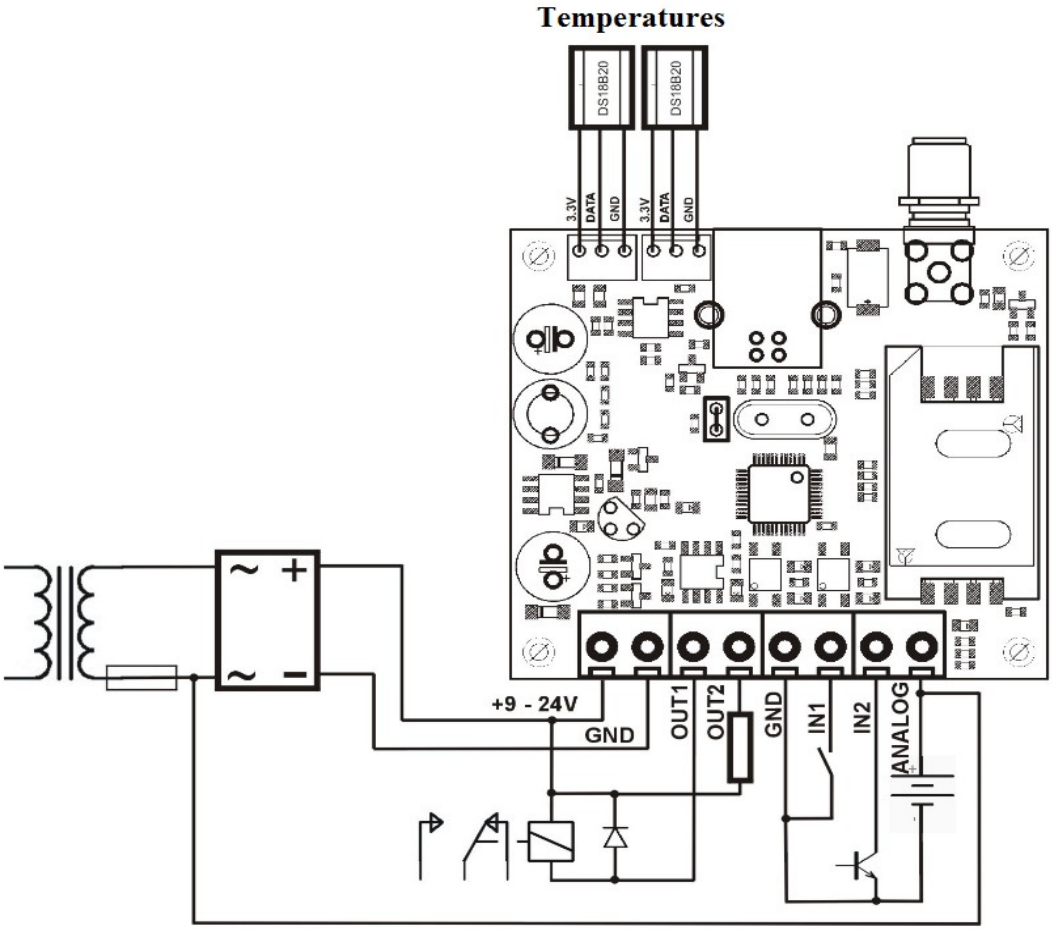
Popis	hodnota:	jednotka:
Dimension:	60 x 53 x 20	mm
Power supply:	9 – 24	V DC
Typical power supply:	12	V
Current consumption:	50	mA
Peak consumption (GSM burst):	2	A
Digital Input current after ON (switching):	4,5	mA / 12V
Maximal output current:	4	A
Maximal switched voltage:	40	V
Analog input voltage:	0 - 30	V
Voltage measurement accuracy:	5	%
Temperature range:	-55 - 125	°C
Temperature measurement accuracy:	+/- 0,5	°C
Supported type of temperature sensor	DS18B20	



Product description:

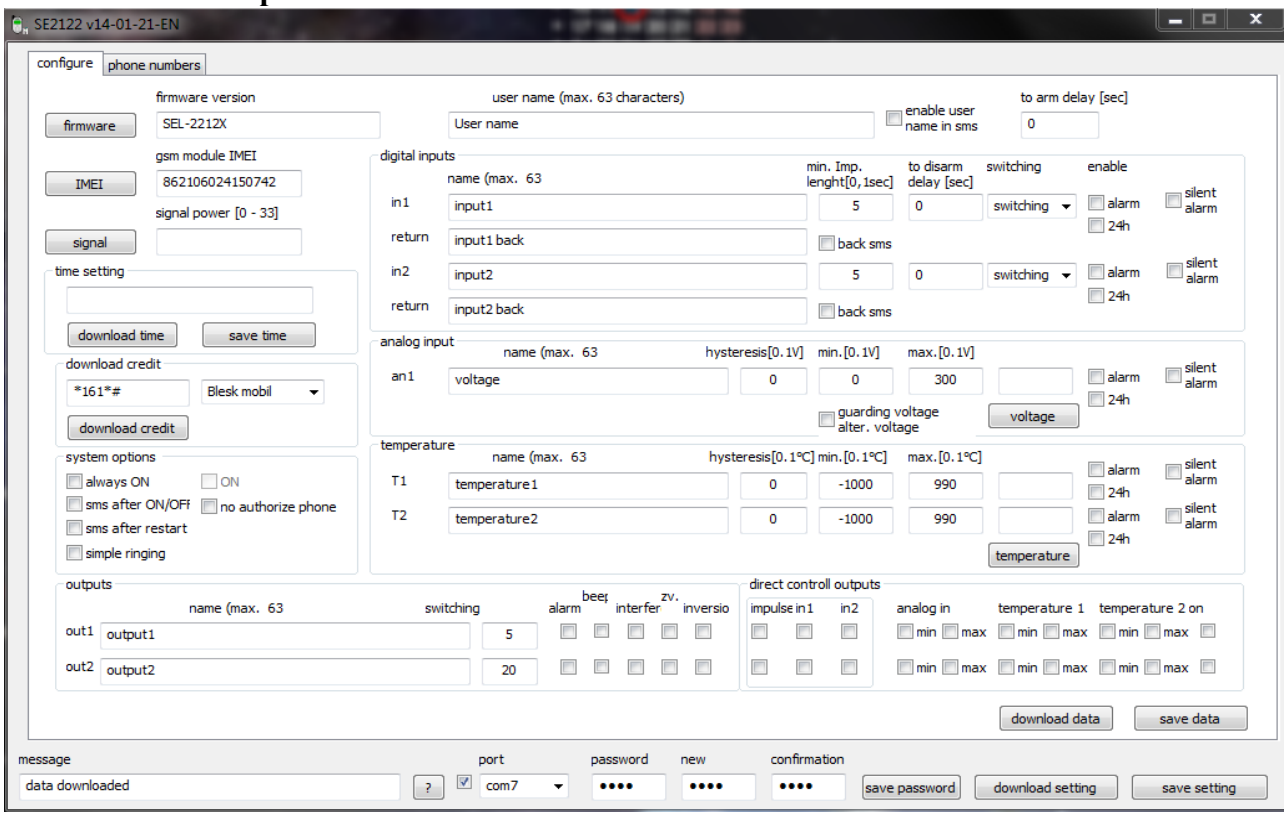
12V; GND	Power supply connectors
SMA connector	GSM antenna with SMA connecor
Programming jumper	Firmware change
OUT1; OUT2	Transistor outputs with an open collector
IN1; IN2	Digital inputs
ALOG	Analog measurement voltage input
Temperature 1 and 2	Temperature sensor connectors
USB-B	USB connector for PC software or new software recording

Connection example:



- Output OUT1 connects relay, it means inductive load. In that case, it is necessary to save our device by clear protective diode.
- Output OUT2 connects resistive load. (protective diode is not necessary)
- Input IN1 is connected to no voltage contact.
- Input IN2 is connected with open collector of the transistor switch. It can be used an optocoupler, too.
- There are 2 examples with Analog input. Battery voltage measurement and guarding transformer secundary blackout. It is good to connect a fuse as picture shows above. **Both examples are connected at the same time, but never may be done like this. It is allowable to connect just one thing only!!!!**
- Use with DS18B20 temperature input sensors connected according to scheme above. Other sensors are not supported.
- Power supply 12V. If power supply is lower, it can appear unstable function. It power supply is higher than 12V, it is OK up to 24V, because SE2212X includes a switching step-down stabilizer, so that there is no threat about temperature overload. Input condenser is dimensioned for 25V and therefore it is banned to get over this voltage.

PC software description:

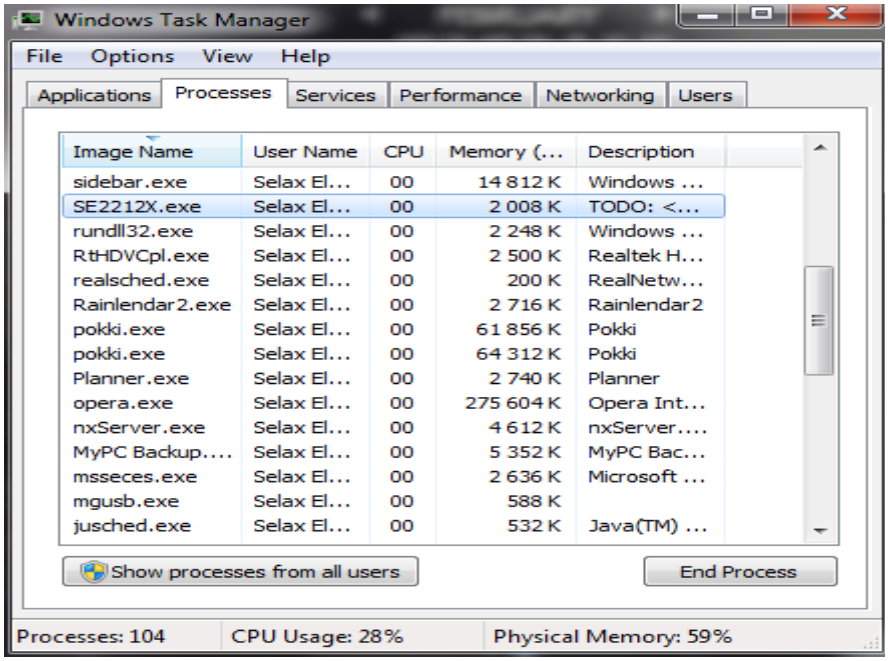


Run software:

Connect USB cable to the device and turn SE2212X ON. After that, run SE2212X PC software. It starts to search for a port, where SE2212X is installed. (See video driver installation.) If SE2212X finds it, you will see it on the bottom line in the window called **port**. Software includes two windows called: **config** and **phone numbers.**

If port is not found, turn your PC software off, take your cable out , let it be about 5 seconds away and then connect it to the device again. If some problems were on, turn your PC software off, switch the cable off again, turn the power supply off, wait for about 10 seconds, then connect cable to the device and after that turn power supply on. All devices connected to USB are predisposed for a jamming, therefore there is a possibility „to freeze“ sometimes. In that case, turn your PC software off and restart your device again. If PC software so-called „freeze“, just do as follows:

- Click on the bottom line next to Start button, press right button of your mouse and choose Start Task Manager. It looks as follows:


Windows Task Manager
File Options View Help
Applications Processes Services Performance Networking Users
Image Name User Name CPU Memory (... Description
sidebar.exe Selax El... 00 14 812 K Windows ...
SE2212X.exe Selax El... 00 2 008 K TODO: <...
rundll32.exe Selax El... 00 2 248 K Windows ...
RtHDVCpl.exe Selax El... 00 2 500 K Realtek H...
realsched.exe Selax El... 00 200 K RealNetw...
Rainlendar2.exe Selax El... 00 2 716 K Rainlendar2
pokki.exe Selax El... 00 61 856 K Pokki
pokki.exe Selax El... 00 64 312 K Pokki
Planner.exe Selax El... 00 2 740 K Planner
opera.exe Selax El... 00 275 604 K Opera Int...
nxServer.exe Selax El... 00 4 612 K nxServer....
MyPC Backup.... Selax El... 00 5 352 K MyPC Bac...
msseces.exe Selax El... 00 2 636 K Microsoft ...
mgusb.exe Selax El... 00 588 K
jusched.exe Selax El... 00 532 K Java(TM) ...
Show processes from all users
End Process
Processes: 104
CPU Usage: 28%
Physical Memory: 59%

- Search for

SE2212X.exe application and click on that by mouse. If turns blue, click on button called **End Process** on the right bottom corner.

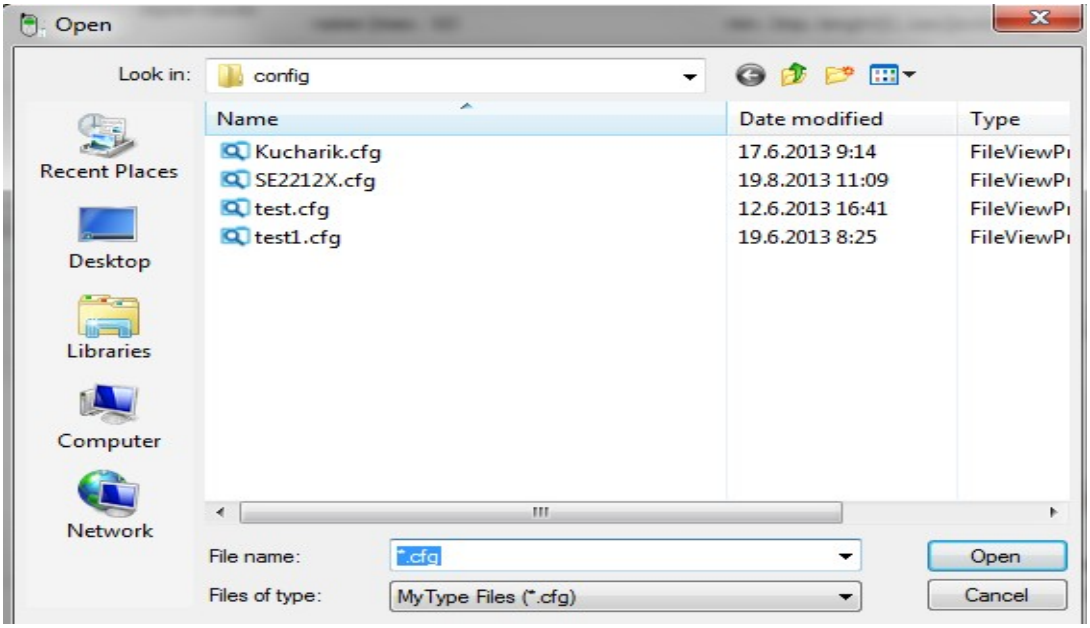
Bottom line:

save password – Configuration is saved by 4 digit password. You can change your password like this:

- Write your current password into item called **password**.
- Write new password into item called **new password** and **confirmation**.
- Click on **save button** to save your new password.

Factory password is **1234**. We recommend to change this password.

download setting, save setting – you can save or download all settings to or from configuration file with .cfg suffix. If you click on download setting button, it will appear for example this window:



You can save or download all settings, which you have done. If you want to have all settings saved in your configuration file in your SE2212X, when SE2212X download all settings, it is necessary to save it. It means, click on **Save data** button in **config** window and **Save numbers** in **phone numbers** window. If you would not do it, setting will not be put into processor and SE2212X will not be working properly.

System setting:

firmware – downloading a firmware version

read IMEI – downloading IMEI identification number of GSM module. IMEI will appear, if SIM card is connected to the GSM network and everything is OK. If not, then there is a problem about connecting to the GSM network or SIM card can be dirty.

signal – downloading signal strenght.

time setting – downloading time from your device. If you click on **save time** button, PC time will be saved automatically into your device. There is not a backup for the time, but it is authorized all the time, when SE2212X will get SMS. If you want to have the accurate time all the time, click on **sms after restart** item (under **system options**). It that case, SE2212X will inform you, there is not accurate time there. If you want to have the right time, just send any SMS to SE2212X and the right time will be set automatically.

download credit – You can choose any mobile operator and click on **download credit** button.

always ON – if checked, SE2212X is all the time armed and there is no possibility to disarm it. If not, it is possible to arm and disarm using some of ways mentioned below. If SE2212X is used like a complementary to the other central unit, we recommend to check it, because arming or disarming has no sense in that case.

ON – shows always actual status. It is just an information, it means, it does not affect to be checked or not. Possibility to arm/disarm can be done as follows:

- Input switching – according to configuration.
- ringing – let ring, when SE2212X hangs up itself.
- sms message

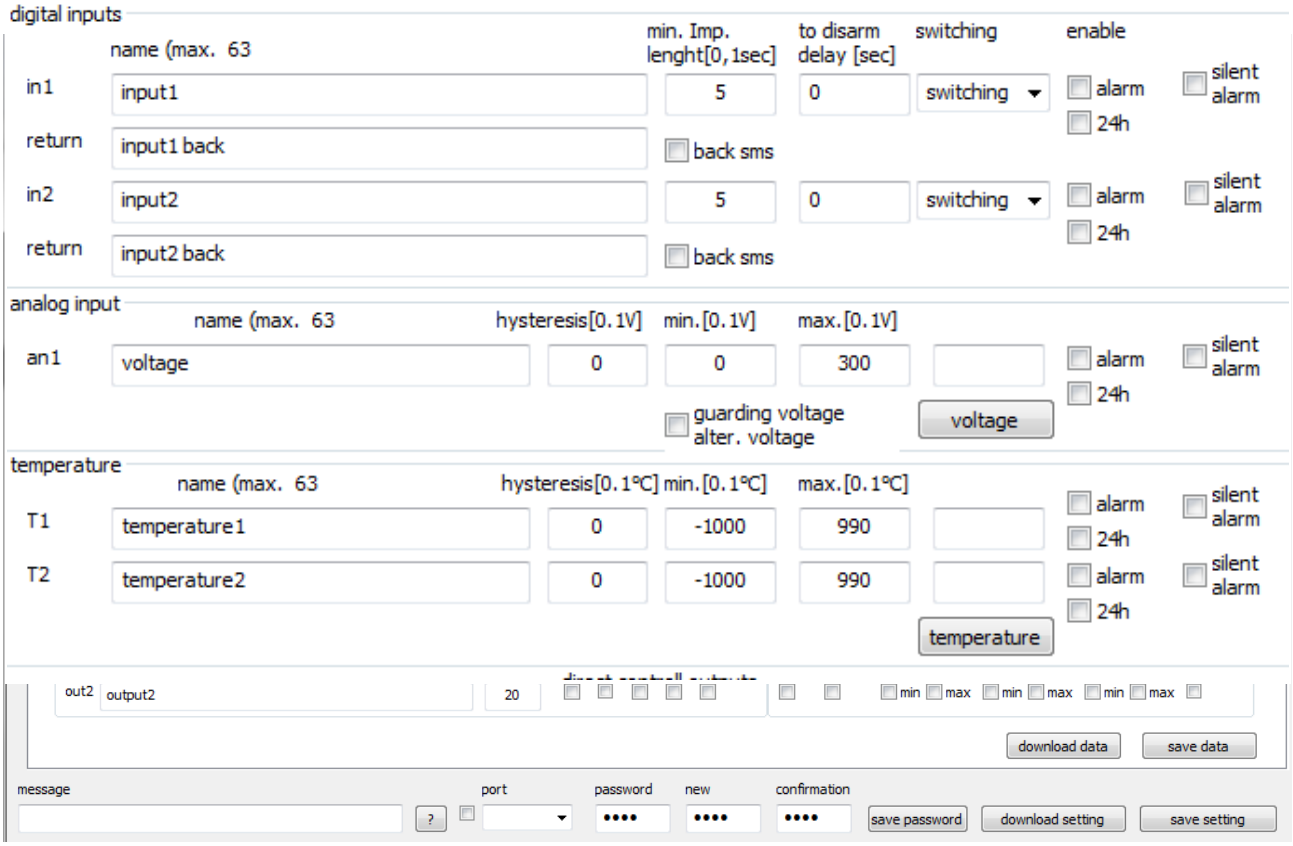
sms after ON/OFF - If your device is armed/disarmed and this option is checked, SE2212X will send out automatically SMS to the phone numbers, which are checked at **system sms** option in the phone numbers window.

sms after restart – Afer each system restart, SE2212X will send out automatically SMS to the every phone number, which is checked **system sms** option.

Simple ringing - if it is checked this option, each output (which was checked) will be ON after ringing.

unauthorized numbers – if it is checked this umber, SE2212X will stop to control authorized numbers and will react to any phone numbers. It is good for opening a hotel gate for any of hotel guests and so on.

Input setting:



- Do not use diacritical marks in SMS.

Wired inputs:

User name – Enter device name into this item. For example **My house.** If you checked item **called enable user name in SMS**, this name will be automatically added in SMS. It is useful for instance, if you use more devices, so that you know right away, which device sent SMS.

Input name - enter input name, which will appear in SMS after alarm – for example **door magnetic sensor.**

Return SMS - Enter another text, which will be sent with SMS, as soon as the input will come back, it means, when input returns in the previous (idle) status. . When input is back meanwhile alarm servising is going, this sms will be sent after sending all alarm SMS and ringing.

min. input lenght – time in tenth of seconds, when input must be activated to start alarm or arm/disarm. It is owing to filtering out of the troublesome impuls, for example contact sparkling. You can choose these input options.

to disarm delay – time to disarm SE2212X. If SE2212X is not diasrmed withing tis time interval, it will alarm.

Next rollbar:

- **switching –** input is grounded and alarm will start.
- **not switching** – input is grounded in the idle status, as soon as grounding is interrupted, alarm will start.
- **change** – alarm will start after each input status change, switching ot not switching.
- **ON** – when grounded, SE2212X will be armed.
- **OFF** - when grounded, SE2212X will be disarmed.
- **ON / OFF** - when grounded or not grounded, SE2212X will change status into opposite one.

alarm – if you checked this option, alarm, when SE2212X is armed.

24h – if you checked this option, alarm will be every time, regardless of SE2212X is armed or disarmed. Good for a smoke detector, for example. It is not necessary to check **alarm** option.

silent alarm – if you checked this option, output will not be switched. It is impossible to start alarm in itself and always must be used with a combination **alarm** or **24h** option**.**

- **Alarm, 24h** and **silent alarm** have the same functions as regards analog and temperature inputs.

Analog input:

name - input name, you can enter any text to name it and it will be sent out in SMS after alarm.

Hysteresis – if setup measured value is undergoing or over setup value, SE2212X will alarm or can control a output directly. If a value is bigger that setup one, and then it goes down, it must be less than setup one minus hysteresis to alarm or control any output directly. The same with undergoing. It is done to stop any alarm within oscillation or quick changes around min . and max. value. It is not good to overlap working areas. For example, if min. value is 15 V and max. one is 17V and hysteresis is 2V. In this case will be created undefine status. The right hysteresis setting is for example 12V min. and 17V max. with hysteresis 2V or any other combination keeping the right hysteresis rate with min. and max. value.

min a max – preselection – alarm will be, if min. voltage value is below or max. voltage value is higher. For instance, if you measure a backup battery, it will alarm when battery is run-down or if it is overcharged during battery charging. The value range moves in tenth of volts.

voltage guarding – If you checked this option, it means, you can guard voltage in the secondary coil of power supply transformer. Set **min.** value like a half of really measured value. If voltage value is less than preset one, within one power supply period will be alarm.

voltage – when you click on this button, SE2212X will download actual voltage.

Temperatures:

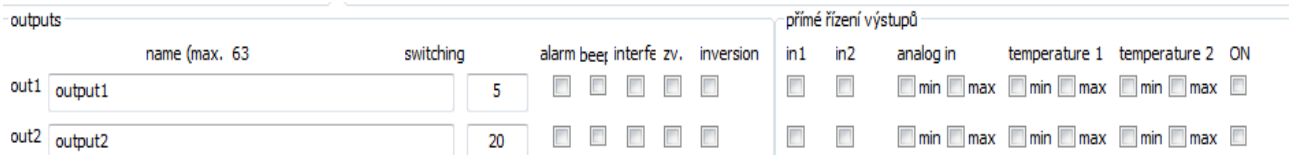
temperature name - temperature name, which will appear in SMS text after alarm.

Hysteresis – it works the same way like hysteresis with inputs.

min and max – preselection – alarm, when the values are lower of higher then preset ones. Values are in tenth of °C degrees.

temperature – if you click on this button, SE2212X will download the actual temperatures**.** Values are in tenth of °C degrees. If temperature sensor is not connected, the valid value is set to -50.0 °C.

- If you want to use just one value to alarm, set the second value not to be surpassed or lowered. For example, it can be 0V with analog input, which can not be lowered.



Output setting:

Output name – enter output name.
switching - time, when output is turned on. If preset value 0, output is turned on all the time, until is turned off by some action, for instance SMS.

alarm. - when alarm, output will turn ON for a preset period, which you choose in **switching** item.
beep – when system armed, it will beep shortly once, if disarmed, it will beep shortly twice. If siren connected, it is good to choose **alarm** and **beep** at a time.
interfere – reserved.
zv – output will be turned on for a preset time according to **switching** option by ringing. Output 1 is turned ON by one ringing, output 2 by two ringing. If you keep ringing, after fourth ringing, SE2212X will automatically hang up and will arm or disarm. If you call again and keep ringing fourth time, the status will be automatically changed into opposite one. In practical use, if you hear the first ringing tone just finished, you will hang up immediately and output1 will be turned ON. It works of course, if you checked **zv** option.
inversion – this optins causes, that all outputs will behave on the contrary. It means, in the idel mode is output ON and if SE2212X receives any command, the output will be OFF. Example: SE2212X will receive SMS command to ON output 2 and inversion option is checked, then output 2 will be OFF.

Output direct control

You can control outputs directly according to input conditions. If no option, direct control does not work and it is possible to use options given above. SE2212X prefers a direct control, so that, if some options is checked, it is impossible to use given output like alarm or to turn ON by ringing. It is possible to use direct control with more options at a time. These options work like logical sum, it means, if there is any request to switch, output will be switched. It will be switched OFF only, when no option requests switching, for instance, when you checked analog min. and max. at a time, output is switched OFF only when it is between min. and max. If it is under min. or higher then max., output is switched ON. Switching time has no influence for a direct control function.

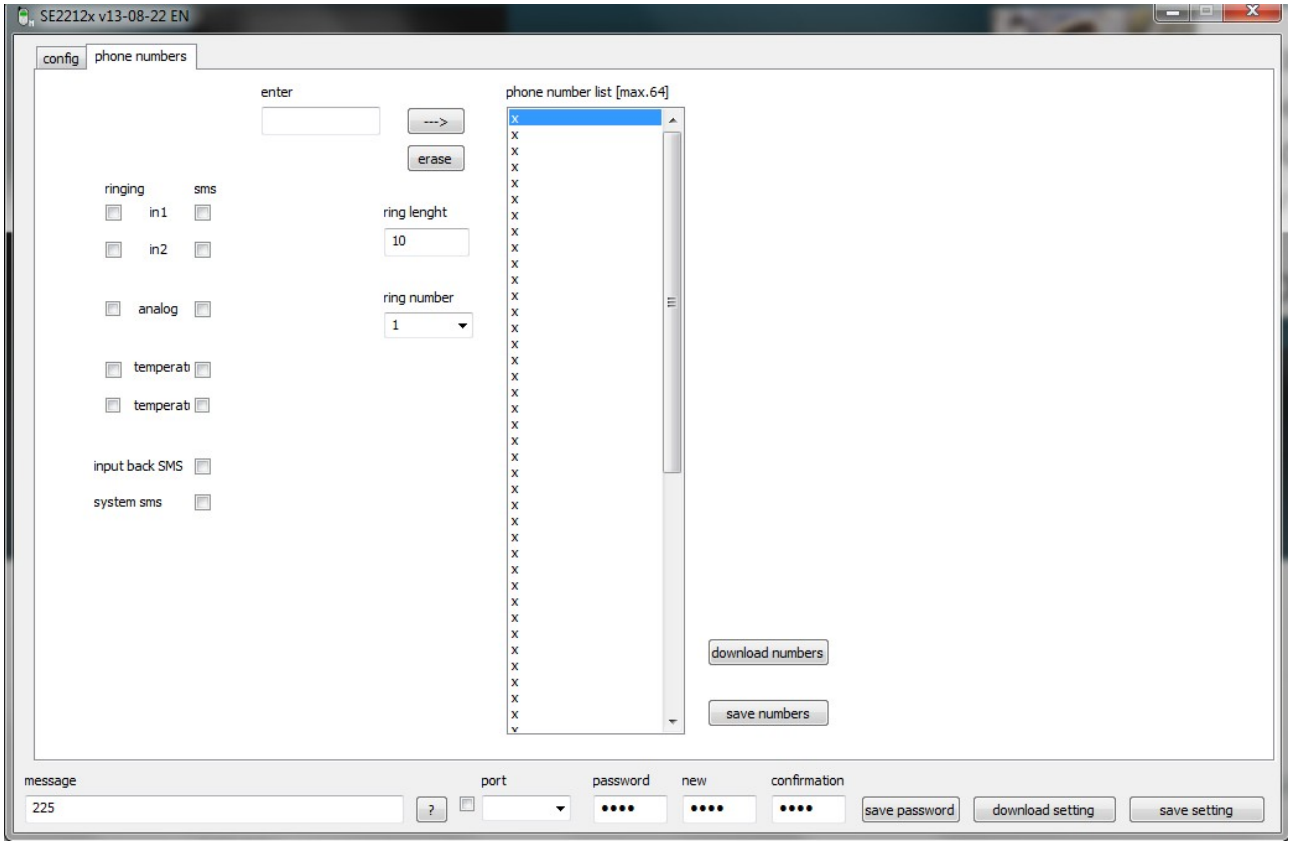
Impuls – changes mode to control output directly using input 1 and input 2.

impuls option is not checked:
in1, in2 – output will copy input status according to configuration setting. It works only, if configuration is switching or not switching. For example, if input is preset for **not switching**, output will be turned ON, when input is disconnected from the ground, if input is preset for a **switching**, output will be turned ON, when this input is grounded.
impuls option is checked
If in1, in2 will be initialized according to switch mode, output will be ON on the preset time or permanenet (if preset time = 0). If output is already switched on, input initialization will output OFF.It is possible to output ON or output OFF using one input. In this mode, input sattus do not block output and therefore is possible control output by ringing, alarm or beeb.
analog in, temperature 1, temperature 2 – Output will be switched ON, when value is less than min. or higher than max. It must be checked a relevant option, of course.
ON – output is switched ON, when SE2212X is switched ON. In that case you can connect LED via resistor and SE2212X will shine all the time, when SE2212X is ON. It makes sense only, while **always ON** option is not checked.

- Remember to click on **save** button to save all parameters or **download** button to download all paramaters.

Setting numbers:

Our device includes up to 64 phone number list for sending SMS or ringing. Our device responds to the phone numbers, which are included in the phone number list only. Numbers can be located in any position in the list, it means, there is no need to put them at the beginning one by one. It is allowed to use national and interantional format with prefix + in front of phone number.



add / erase phone numbers:

- Click on the phone number position you want to change.
- Click on **erase** button, if you want to erase the number.
- Enter new phone number you want to add into **enter** item.
- Click on ---> button to move into phone number list

- after alarm, first of all SMS will be sent and then ringing.

more options: All options, which are related to phone number are valid for this phone number, which is highlighted in the list, it means, you can assign any options to any any phone number.

ring lenght – If our device rings to the phone number, it keeps waiting to the real start of ringing and ringing will take for a preset time. Therefore, you do not preset too short time, we recommend min. time interval about 10 – 15 seconds.

ring number: - you can choose it from 1 to 5 times.

ringing - you can assign any input to any phone number to ring to. Remember to check appropriate input alarm , otherwise no alarm will be.

sms – the same like with ringing option.

You can use more options:

- **input back sms –** if wired input is allowed input back sms, a back sms will be sent out to the number with this option.
- **system sms** – system sms will be sent to the phone numbers, which have this option.

save number, download number – to save or download the phone numbers to or from device.

SMS commands:

Device responds to the phone numbers, which are included in the phone number list. If you can use a phone number out of phone number list, it is necessary to enter a password at the beginning of SMS. You can send a few SMS commands at a time. All SMS commands must be separated by a gap.

SMS command **??** – statement status – includes all input and output status.

Example statement status sms:

```
info: ON:
in1 - 1
in2 - 1
out1 - off
out2 - off
analog. input: 7.3 V
t1: 24.1 C
t2: 24.0 C
SE2212X:
date: 26.6.2013 09:02:50
```

If input is not grounded, statement includes status 1 and if grounded, then 0.

SMS command *** – when enter three stars, sms will turn SE2212X ON.
SMS command ### - when enter three, sms will turn SE2212X OFF.

- if **always on** option is chosed, then this sms has no affect to arm (turn ON) or disarm (turn OFF).
- After arming/diarming, SMS is sent to the phone numbers, which have **system sms** option chosen, it means, that sending system SMS is allowed. If you send SMS command from the phone number, which has not activated this option and you want to know a status confirmation, just enter ?? in SMS text and all answers will be sent to this phone number as well.

SMS command **out*n**, out*n*#** - instead **n** enter output number. * will turn output ON, # will turn output OFF. Example: SMS command out1* out2# will turn output 1 ON and turn output 2 OFF. If you enter in addition ?? in SMS, SE2212X will send back statement status.

SMS command **number#nnnnnnnnn**

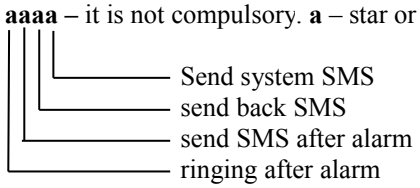
For setting or erasing phone numbers from the phone number list. After word **number** follows a mark * or #

Example:
- erase following number from the list, if sms command will be number#777123456 then will erase number 777123456 from the list. All options for the erased number are saved.

- - add following number at the first position in the list. SMS command number*777123456 will add number 777123456 on the first free position in the list.

SMS command **number*nnnnnnnnnaaaa** **n** – the figures of the phone number, it is allowed + at the first position, **a** – star or cross.

aaaa – it is not compulsory. **a** – star or cross.



These four control marks **aaaa** must be all, otherwise SMS command is undefined.
Example: SMS command number*777852146#**# will add number 777852146 in the list and ban ringing after alarm, let sending SMS after alarm, let sending back SMS and ban system SMS.

It is impossible to setup ringing or SMS concerning phone numbers the same way like using PC software.

Driver installation.
See our video driver installation.